The Thesis Committee for Alicia Louise Duncombe
Certifies that this is the approved version of the following Thesis:

Race and the Educational Disparities in Midlife Bankruptcy Filings

APPROVED BY
SUPERVISING COMMITTEE:

Chandra Muller, Supervisor

Ruthine Kelly Raley

Race and the Educational Disparities in Midlife Bankruptcy Filings

by

Alicia Louise Duncombe

Thesis

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

Master of Arts

The University of Texas at Austin

May 2020

Acknowledgements

I would like to thank Dr. Chandra Muller for her guidance over the course of this project. I would also like to thank Dr. Kelly Raley, the members and guests of CMERT, the Inequality Working Group, and my writing group, all of whom gave me critical feedback to improve this work. For their technical and/or emotional support, I would like to thank Glen Eggers, Dr. Robert Reynolds, Liz Johnson, and Dr. Jay Teachman. I am grateful for the generous support of the High School and Beyond Midlife Follow-up project. This material is based upon work supported by the Alfred P. Sloan Foundation under grant number 2012-10-27, the National Science Foundation (NSF) under grant numbers HRD 1348527, HRD 1348557, DRL 1420691, DRL 1420330, and DRL 1420572, the NSF Graduate Research Fellowship under grant number 000392968, the Institute for Education Sciences of the U.S. Department of Education under grant numbers R305U140001and R305U180002, the Spencer Foundation under grant number 201500075, and the National Institute on Aging, under award R01AG058719-01A1. This research was also supported by the Eunice Kennedy Shriver National Institute of Child Health and Human Development under grants numbers P2CHD042849 and T32HD007081 (Training Program in Population Studies). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect the views of the National Science Foundation, the National Institutes of Health, and other funders. Note that this manuscript has been subject to disclosure review and has been approved by the U.S. Department of Education's Institute for Education Sciences in line with the terms of the HS&B restricted use data agreement.

Abstract

Race and the Educational Disparities in Midlife Bankruptcy Filings

Alicia Louise Duncombe, MA

The University of Texas at Austin, 2020

Supervisor: Chandra Muller

Black Americans are overrepresented among bankruptcy filers, and those with bachelor's degrees are underrepresented. Within the context of the complex relationship between race and education, I explore the educational roots of bankruptcy risk. Using data from the High School and Beyond (HS&B) study matched to 15 years of recent bankruptcy records (2003-2017), I ask if degree attainment and cognitive skills have independent relationships with the risk of filing for bankruptcy. I also assess whether those relationships differ by race and the extent to which those differences contribute to the high risk of filing for bankruptcy among Black Americans. While White Americans with bachelor's degrees and higher cognitive skills are associated with a reduced risk of filing for bankruptcy, Black Americans are not. I estimate that the racial differences in the effects of educational achievement on the risk of bankruptcy contributes significantly to the Black-White bankruptcy gap.

Table of Contents

List of Tables

Introduction

Bankruptcy is a signal of financial hardship for those in the middle class (Warren and Thorne 2012), for whom debt often serves an important function in wealth building, especially in the form of homeownership (Killewald and Bryan 2016). Over 12 million bankruptcies were filed in the US between 2006 and 2017 (US Courts 2018), and Black Americans are overrepresented among the filers (Fisher 2019; Kiel and Fresques 2017; Warren 2004). Not only do racial differences in wealth accumulation likely contribute to the racial bankruptcy gap, but racial differences in the distribution and effects of educational achievement could also be a contributing factor, though largely unstudied. Furthermore, Black Americans' disproportionate risk of filing for bankruptcy likely also creates a feedback loop which deepens the wealth gap.

Most of the bankruptcy literature has focused on the immediate causes of bankruptcy. The general consensus among researchers is that job loss, medical ailment, and family change are the leading adverse events that precede a bankruptcy (Zywicki 2005). Education, which is an antecedent to the risk of the proximate causes of bankruptcy, is usually only mentioned to frame bankruptcy as a problem for the middle class, most notably defined by their educational attainment of at least "some college" (Warren and Thorne 2012). However, little is known about the role of cognitive skills in predicting the risk of bankruptcy. Furthermore, teasing apart the mechanisms through which educational achievement (degree attainment and skill development) is protective against filing for bankruptcy and how those mechanisms might differ by race could shed insight on the racial bankruptcy gap.

In this study, I have two goals. First, I assess whether degree attainment and cognitive skills independently and collectively impact the risk of filing for bankruptcy. Second, I consider whether each explains or attenuates the high risk of filing among

Black Americans. Using data from the High School and Beyond (HS&B) study matched to 15 years of recent bankruptcy records (2003-2017), I use records of educational preparation and degree attainment in adolescent and early adulthood to predict filing for bankruptcy at midlife. Additionally, with a decomposition, I assess whether the racial differences in the distributions of or effects of educational achievement contribute more to the racial gap in bankruptcy filings. To do this, I turn to signaling and human capital theories to guide my understanding of the possible mechanisms through which education impacts the risk of filing for bankruptcy and when those mechanisms differ by race.

Background

The Significance of Bankruptcy in the 21st Century

Personal bankruptcy, a legal avenue for debt forgiveness, is a chance for a financial do-over, and yet, though often better than the alternative, filing for bankruptcy is stigmatized (Thorne and Anderson 2006) and has "scarring effects" (Maroto 2012), even when successful. Not only do Americans who file for bankruptcy work less and earn less after bankruptcy (Maroto 2012), they are also more cautious borrowers (Porter 2010), which limits their ability to build or rebuild wealth. The decision to file for bankruptcy is not one that is taken lightly, and debtors who get to that point have typically exhausted all options for overcoming debt without help (Sullivan, Warren, and Westbrook 2020). Whether or not the bankruptcy is ultimately successful in relieving debts, the event of filing captures a moment of severe financial hardship.

Who files for bankruptcy is inherently shaped by the structure of credit availability and use. For middle class Americans, credit gives access to wealth building opportunities (e.g. homeownership) and resources and commodities that might have been otherwise inaccessible (e.g. higher education, medical care, food). In other words, debt can function as a precursor to achieving the various markers of being middle-class or as a resource of support during times of financial instability. In either case, what starts out as hope for a brighter future can shift into overwhelming debt burden if circumstances change. Debt burden is the ratio of debt to income, so growing debt, decreasing income, or some combination of the two can lead to the increase of debt burden, leading some borrowers to turn to bankruptcy as an avenue for qualifying debt relief. In this manner, bankruptcy rates are a gauge for how well and for whom the system of credit and debt is working.

Starting in the 1990s, the number of bankruptcies filed rose annually in congruence with rising financial inequality (Pace, Lown, and Xiao 2016). To meet the financial demand of basic necessities, families increasingly turned to working longer hours, forgoing saving, and relying more on credit to get by (Frank 2013). Under those circumstances, there is little leeway to manage a sudden financial shock. To address the growing number of bankruptcies, Congress passed the Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA) in 2005 that tightened the laws around filing after lending institutions pushed the idea that consumers were growing more irresponsible (Bak, Golmani, and Woods 2008; Pace, Lown, and Xiao 2016). The number of bankruptcies filed in subsequent years fell but increased financial hardship due to the housing market collapse meant bankruptcy filings rose to pre-BAPCPA levels during the recession despite the new restrictions to filing (Pace, Lown, and Xiao 2016). The rise in bankruptcies that coincided with the economic recession reflected the rigid credit system cracking under the pressure of mass decreased income.

Most bankruptcy researchers have focused on identifying the most common factors that immediately precede bankruptcy, which are medical costs, reduced income, and changes in family structure (e.g. divorce, births) (Bauchet and Evans 2019; Himmelstein et al. 2019; Zywicki 2005). Maroto (2015) pushes the analysis further by recognizing that while bankruptcy filings are typically preceded by adverse events, those events do not occur in isolation, but rather happen in succession through a process of cumulative disadvantage. Therefore, those who are most at risk for these life events are most at risk for filing for bankruptcy. This is especially true for borrowers who lack the necessary resources to overcome the financial hardships those life events induce such as wealth or support networks, and Black Americans are disadvantaged on both counts (Conley 2010; Herring and Henderson 2016).

First, Black Americans hold a fraction of the wealth at every income level compared to White Americans, which suggests that the lower average wealth in the Black population is not just a product underrepresentation in higher income brackets. Rather, highly educated Black Americans still face barriers to wealth accumulation even at higher income levels (Conley 2010). Black Americans who face the same financial hardships as their White counterparts are at a higher risk of bankruptcy because they lack wealth to cushion the blow of a sudden financial hardship. Second, inequality in wealth accumulation is perpetuated across generations in part because of difference levels of wealth within social networks (Chiteji and Hamilton 2002). Low wealth Black Americans have less access to financial resources from family and friends that could interrupt the financial spiral into bankruptcy (Gould-Werth 2018). In this study, I ask how educational differences by race might also be contributing factors.

Education and Bankruptcy: Signaling and Human Capital Theories

Like most economic outcomes, the risk of bankruptcy generally decreases as educational attainment increases expect for individuals with very low education levels, who are also underrepresented among bankruptcy filers (Warren and Thorne, 2012). Those without a high school diploma are more likely to be excluded from the credit market or are restricted by the upfront costs of hiring a bankruptcy lawyer. Bachelor's degree holders, most of whom are participating in the credit market, are more protected from the risk of bankruptcy despite higher levels of borrowing. On average, bachelor's degree holders have higher income, better health, lower rates of divorce (Hout 2012), and more stable employment (BLS 2019), all of which are associated with a smaller risk of filing for bankruptcy. Those with some college experience but not a bachelor's degree have a higher risk of filing for bankruptcy, especially in more recent years. Warren and Thorne (2012) attribute the higher rates in this group to those who took classes but did

not earn a diploma, because having that credential grants access to occupations and networks that are less attainable to those who only took some classes.

In most bankruptcy research, evidence of an educational gradient is descriptive and does not account for the mechanisms that influence later life economic outcomes. Most, like Warren and Thorne (2012), present evidence in support of signaling theory. In this theory, degrees are visible to employers who take that degree as representative of skill in lieu of being able to measure it directly (Spence 1973). Access to the kinds of jobs available to those with a bachelor's degree can impact the risk of filing for bankruptcy in as much as those jobs determine income, health insurance, and job stability.

A second explanation, human capital theory, posits that higher cognitive skills allow workers to learn more effectively on the job, thus improving productivity and wages. Though not mutually exclusive, signaling and human capital theory emphasize different processes and mechanisms to account for the observed education disparities in bankruptcy filings. As one progresses through school, valuable cognitive skills are gained and yet horizontal stratification within schools guarantees that those graduating with a high school or college diploma will not be leaving with the same cognitive skill level. Under human capital theory, higher skills, often measured with test scores, translate to higher wages and other occupational benefits through higher productivity. Math test scores are a good measure of cognitive skill development in schools because they capture a cumulative process in education beyond what a degree can signal. In fact, higher math ability has been linked to higher wages in early adulthood (Rose and Betts 2004). The economic and occupational gains from higher cognitive skills could reduce the risk of filing for bankruptcy.

Additionally, cognitive skill and degree attainment are linked. There is selection into which students attend and ultimately graduate from college, and one of the predictors

of college graduation is academic achievement in high school, namely math skill development (Byun, Irvin, and Bell 2015; Song, Orazem, and Wohlgemuth 2008). Therefore, cognitive skills may explain some of the protective effect of having a bachelor's degree in as much as having that degree is a proxy for higher cognitive skills.

Hypothesis 1a: Individuals with higher level degrees (signaling credentials) will be less likely to file for bankruptcy than those with only a high school diploma.

Hypothesis 1b: Individuals with higher levels of cognitive skills (human capital) in the form of higher math test scores will have a lower risk of filing for bankruptcy.

Hypothesis 1c: Part of the value of degree attainment will be explained by skills developed in school before going to college.

Educational Contributions to the Higher Risk of Bankruptcy among Black Americans

I investigate two potential pathways through which education could explain at least part of why Black Americans are disproportionately likely to file for bankruptcy. First, the racial gap in educational achievement might partially explain the relationship between race and bankruptcy filings. A history of racial discrimination and structural disadvantage in schools has led to racial gaps in graduation rates for high schools and colleges and in test scores through opportunity for cognitive skill development such that White and Asian students are advantaged (Kao and Thompson 2003). The distribution in degree attainment and test scores by race could explain part of the racial bankruptcy gap between White and Black respondents because smaller proportions of Black students have the credential or the math skills that translate into a reduced risk of filing for bankruptcy.

Hypothesis 2a: Controlling on degree attainment will reduce the gap in bankruptcy filings between Black and White respondents.

Hypothesis 2b: Controlling on cognitive skills will reduce the gap in bankruptcy filings between Black and White respondents.

Second, race may attenuate the relationship between education and bankruptcy to the extent that Black Americans face structural barriers that make capitalizing on academic achievement more difficult, especially through discrimination in the labor market. Bachelor's degrees signal to employees the potential value of a job candidate, and yet what that degree signals differs by race. Gaddis (2014) found in a resume audit that changing the race of an applicant reduced the positive signal of having gone to an elite university. The reduced signaling power of a degree likely contributes to the racial pay gap. Accounting for education, experience, urbanicity, and region, Black men and women made 22% and 34% less than White men and women, respectively, in 2015 (Wilson and Rodgers III 2016). Evidence of a whether the racial wage gap exists when controlling for skills is mixed (Goldsmith, Darity, and Veum 1997).

It may be that Black Americans face barriers in being able to use benefits from better jobs to avoid bankruptcy. Black Americans pay a premium for credit regardless of the usual factors associated with interest rates like income and credit scores. Unequal practices in lending mean that, on average, Black Americans pay more to own homes (Beeman, Silfen Glasberg, and Casey 2011) and buy cars (Charles, Hurst, and Stephens 2008). Additionally, payday lenders, known for being predatory and unsustainable as a financial resource, are more prevalent in high minority neighborhoods even when controlling on income levels (Seamster 2019). Therefore, Blacks Americans go into more debt for the same commodities as other borrowers. The price of debt for Black Americans may counteract the benefits of degree attainment and high cognitive skills.

Hypothesis 3a: An interaction between race and degree attainment will show that the mechanisms through which having a bachelor's degree is associated with a reduced risk of filing for bankruptcy are attenuated for Black Americans.

Hypothesis 3b: An interaction between race and test scores will show that the mechanisms through which higher cognitive skills are associated with a reduced risk of filing for bankruptcy are attenuated for Black Americans.

I presented two processes that could be contributing to the racial bankruptcy gap: different distributions in educational achievement and different effects of education on the risk of bankruptcy by race. Though both processes are likely happening simultaneously, one is likely a larger contributing factor to the higher risk of filing for bankruptcy among Black Americans. A direct comparison between the two hints at the dominate education related mechanisms that matter in the association between race and bankruptcy.

Hypothesis 4: The racial differences in the estimated effects of education in the form of degree attainment and cognitive skills (hypotheses 3a & 3b, respectively) explains *more* of the Black-White bankruptcy gap than the difference in education distributions by race (hypotheses 2a & 2b).

Data & Methods

Data

For this analysis, I use data from the High School & Beyond (HS&B) longitudinal survey of seniors and sophomores in 1980 that was merged with administrative bankruptcy records. Although over 60,000 HS&B students were originally surveyed, this study follows the approximately 26,000 members of the panel sample that were resurveyed in 1982, 1984, 1986, & 1992 (sophomore cohort only), who were still alive in 2014 (Warren et al. 2017). The members of the panel sample were matched[1] to CoreLogic bankruptcy records (administrative) from 2003 to 2017, when the participants were in middle adulthood. The final analytic sample consists of 25,390[2] HS&B respondents who were alive in 2014-2015.

Measures

Bankruptcy: CoreLogic securely matched the records of the panel sample of HS&B respondents to their database of historical bankruptcy records. During the 15-year bankruptcy exposure period (2003-2017), the respondents were approximately between the ages of 40 and 55, which I will refer to as midlife. Respondents were coded as having filed for bankruptcy during midlife if they were matched to any bankruptcy records during that time. If they were not matched to a bankruptcy but CoreLogic identified the individual's record through other matches, they were coded as not having filed for bankruptcy.

Race/Ethnicity: The main independent variable in this study is a combination of race and ethnicity. The HS&B cohorts included an oversample of Black and Hispanic students, which helps provide enough statistical power to detect racial differences in

[1] Records were matched using name and social security numbers
[2] NCES requires N's be rounded to the nearest 10

bankruptcy, a relatively rare outcome. When students were asked to designate their race on the survey, the options were White, Black, American Indian or Alaska Native, Asian or Pacific Islander, or other. For ethnic origin, students could choose between a multitude of options umbrellaed by two main choices: Hispanic and Non-Hispanic. I collapsed race and ethnicity to a four-category variable: non-Hispanic White (White), non-Hispanic Black (Black), Hispanic, and other. In exploratory analysis I distinguished between specific Hispanic ethnicities but did not detect differences between them.

Degree Attainment: Respondents were coded in one of six categories for degree attainment depending on their educational progress as of 1986 for the senior cohort (when most were around ages 23-24) and 1992 for the sophomore cohort (when most were around ages (27-28): less than high school, a high school diploma/GED, three specifications of some extended education, or at least a bachelor's degree. The three specifications of some extended education are those who had started but not earned a bachelor's degree, those who had started but not completed any other extended education, and those who had earned an associate degree or certificate. I distinguish between the types of extended education that do not result in a bachelor's degree because Warren and Thorne (2012) speculate that, among the "some college" group, it is those who attempted, but did not earn, a bachelor's degree who are most at risk for filing for bankruptcy. Due to the age of respondents when measured, this is an on-time measure of degree attainment as some participants may have received their degrees after the last survey was conducted, though this is more likely for the Senior than the Sophomore cohort.

Math Test Scores: As a part of the senior year survey collection, the HS&B students were given tests to measure academic skill level at that time. I constructed a math test score that was a count of right answers based on 18 questions that were comparable between the two cohorts and centered on the mean to aid in interpretation.

Senior year is a good time to measure academic ability, because it is the last time that most of the sample would practice math regularly.

Demographic Controls: For this study I control on gender, cohort (sophomore/senior), geographic region (northeast/north central/south/west), urbanicity (rural/urban), and dropout status to account for environmental and measurement differences that might be important when explaining differences in bankruptcy filings. The control for cohort is especially important due to the difference in some of the measures stemming mostly from the inclusion of the sophomore only survey year, 1992.

Family SES & Wealth Controls: I control on five family characteristics related to socioeconomic status and estimated wealth. First, parents' highest educational degree attainment could be high school diplomas or less, at least one parent with some extended education past the high school diploma, or at least one parent with a bachelor's degree or more. Second, I include a seven-part measure of family income that I treat as continuous; I mean center it so that it has a mean of 0, but I did not adjust the standard deviation. Third, students reported whether their parents owned their home. Fourth, students reported how many siblings they had that were older, younger, or their same age, regardless of whether they lived together. I collapsed that sibling count into four groups: no siblings (only child), 1-2 siblings, 3-4 siblings, or 5+ siblings[3]. Finally, I measure whether both of a students' parents were born outside of the United States.

School & Early Adulthood Controls: For the school related measures, I control on educational expectations and language test scores. Three of the early adulthood measures I use were collected in the same survey I use to determine degree attainment. They are marital status, early childbearing, and homeownership, all of which could have

[3] Due to a coding error, this variable is treated as continuous in the models (not categorical). I was unable to correct this error before submission due to the COVID-19 pandemic.

implications for bankruptcy risk. Finally, I control on whether the respondents took out loans to pay for school in the two years after their class graduation.

I implemented mean and mode imputation for all variables with missing values. I then included a flag for the converted missing values of each variable in the regressions and decomposition analysis, described in the next section. In future analysis, I will use multiple imputation to handle missing values. All analysis is weighted using the HS&B panel sample weight (rawwt).

Analytic Plan

To test my hypotheses, my analysis follows three stages. First, I use a series of logistic regression models to test all parts of hypotheses 1 and 2. The first model highlights the baseline gaps in bankruptcy filings between black respondents and each other racial/ethnic group when controlling on demographic characteristics[4]. In the subsequent two models I control on degree attainment (1a & 2a) and math test scores (1b & 2b) separately, and then together in the fourth model (1c). In the final model, I add in the remaining controls to assess the effect on the relationships I observe in the previous models. I report the results using average marginal effects to adequately compare across logistic regression models (Mood 2010).

Second, I present odds ratios for the final model from stage one, followed by two models with interactions between race and degree attainment and race and math test scores to test hypotheses 3a and 3b. These models show whether the association between education and bankruptcy filings is attenuated by race. Finally, I compare the Black respondents to the White respondents in an Oaxaca-Blinder decomposition to compare whether the estimated mediating or moderating effect of education on the relationship

[4] Due to the COVID-19 pandemic, I have limited access to the data and was unable to include the family SES and wealth controls along with the demographic controls in the first for models of stage one.

between race and bankruptcy filings explains more of the racial bankruptcy filing gap (hypothesis 4).

I use a version of the decomposition that is compatible with non-linear analysis such as logit models (Powers et al. 2011). This tool allows me to estimate how the bankruptcy gap would change if the characteristics (distribution and effects) were equalized across groups, in effect providing a counterfactual comparison of the differences between each group. The decomposition is comprised of an aggregate and detailed section. The former estimates how much of the gap in bankruptcy filings between the two racial groups is due to distributional differences (see Table 2) and how much is due to the differences in effects of each variable in predicting bankruptcy filings (see Table A3 in the Appendix) overall. The latter considers how the distribution and effect of each variable contribute to or suppress the gap in bankruptcy filings individually. For the decompositions below, I normalize factor variables with at least three categories so that the percentage contributions of each variable on the decomposition results would not be sensitive to my choice of reference category. The main table I present shows selected results; the full table, and a comparison between Black and Hispanic respondents, can be found in the appendix.

Results

Descriptive Statistics

Table 1 shows the weighted descriptive statistics for this sample. Just over 1 in 20 respondents filed for bankruptcy in midlife. Almost three quarters of the sample identify as White, and 11% identify as Black, and 11% identify as Hispanic. In these cohorts, the average student answered about 10 math questions right out of 18. About 1 in 5 of the respondents had a bachelor's degree by the last survey year for that cohort.

Table 2 shows the descriptive statistics separately for Black, White, and Hispanic respondents. Black respondents are twice and almost twice as likely to file for bankruptcy in midlife than White and Hispanic respondents, respectively. Degree attainment patterns are similar for Black and Hispanic respondents with the exception that Hispanic respondents are less likely to attempt a bachelor's degree after high school. White students are more likely to finish high school, participate in some extended education, and complete a bachelor's degree. It is possible that some of the non-completers went on to get a certificate after the last survey. Regardless, the Black respondents who had completed a bachelor's degree by that point are likely a more select group than the white respondents. As is consistent with literature about race and test scores, Black and Hispanic respondents have lower average test scores for math and English than the White students. White students are advantaged in parents' highest degree attainment, family income, and parental homeownership. White students also reported having fewer siblings and were more likely to have neither parent born outside of the US.

Regressions

In Table 3, I present the average marginal effects from the nested logistic regression models predicting bankruptcy at midlife. Model 1 establishes that Black respondents are 4.4 to 5.5 percentage points more likely to file for bankruptcy in midlife

when using the baseline controls. In model 2, I include degree attainment. In support of hypothesis 1a, those with a bachelor's degree are 4.1 percentage points less likely to file compared to those with a high school diploma. This suggests that having that credential is associated with a large and significant reduction in the likelihood of filing for bankruptcy. Also of note, those who never got a high school diploma were similarly less likely to file for bankruptcy, but continuing education after high school without getting a bachelor's degree was not associated with an increased likelihood of filing as has been found in the literature. I see similar results for higher math test scores in model 3, which provides support of hypothesis 1b. Each additional right answer on the math test is associated with a .4 percentage point decrease in the likelihood of filing for bankruptcy such that higher cognitive skills are associated with a reduced risk of filing.

To address hypotheses 2a and 2b I compare the AMEs of being White compared to being Black in model 1 to those in models 2 and 3, respectively. While I find support for both hypotheses, controlling on math test scores has a larger impact on the race gap in bankruptcy filings compared to degree attainment. The gap is reduced by .7 percentage points between Black and White respondents when controlling for degree attainment and 1.7 percentage points when controlling for math test scores. Additionally, in support of hypothesis 1c, the protective effect of having a bachelor's degree (credential) appears to operate at least partially through higher test scores (cognitive skills). When controlling on math test scores, the benefit of having a bachelor's degree in reducing the risk of filing for bankruptcy relative to only having a high school diploma is reduced by one percentage point (4.1 to 3.1). The final model in Table 3 shows that controlling on family SES and wealth, school, and early adulthood attributes does little to explain any more of the racial bankruptcy gap beyond the education and baseline controls.

In Table 4, I show how the effects of degree attainment and math test scores on bankruptcy risk differ by race. The base model shows the odds ratios of model 5 from Table 3 and therefore shows similar trends; Black Americans are disproportionately likely to file for bankruptcy, and bachelor's degrees and high math test scores are protective against filing on average. When interacting race and degree attainment, the main effect of having a bachelor's degree shows that, statistically, Black respondents with bachelor's degrees are equally likely file for bankruptcy as their counterparts with high school diplomas. The main race effects show that among high school graduates, Black respondents are still more likely to file for bankruptcy than the White or Hispanic high school graduates. Turning to the interaction effects, only White respondents retained the protective effect of a college degree seen in aggregate in previous models.

The final model shows the interaction between race and math test scores. It appears that the protective effect of math test scores is non-existent for Black Americans such that additional correct answers on the math test have no effect on the likelihood of filing for bankruptcy for Black respondents. Higher math test scores remain protective for White and Hispanic students. That math test scores matter for Hispanic respondents when bachelor's degree completion does suggest that, at least for the Hispanic respondents, math test scores are a proxy for a unique mechanism for avoiding bankruptcy.

Decomposition

Table 5 shows the aggregate findings from the Oaxaca-Blinder Decomposition results, but only select detailed findings of individual variables. The decomposition compares the distribution of variables between Black and White respondents shown in Table 2 and coefficients for the variables estimated from the race separate models, which can be found in Table A3 in the appendix for reference. When interpreting the detailed decomposition results, negative percentages indicate that if the high-outcome group

(Black respondents) had the same distribution or return to a variable as the comparison group (White respondents), the gap in bankruptcy filings would grow by that percentage. A positive percentage indicates that the gap in bankruptcy filings would lessen by the specified percentage.

In comparing Black and White respondents, distributional differences in degree attainment account for very little of the gap in bankruptcy filings between them. Though the coefficients in the decomposition for math test scores are comparatively large, they are statistically insignificant. In contrast, race differences on the effects of degree attainment and test scores significantly contribute to the race gap in bankruptcy risk. As a counterfactual, if Black respondents got the same reduction in bankruptcy risk from bachelor's degree attainment as the White respondents, this modeling specification predicts an almost 16 percent reduction in the bankruptcy gap. If Black respondents saw the same reduction to bankruptcy risk from math test scores would result in a 9.5 percent reduction. For the gap in filing for bankruptcy between Black and White Americans, the differing effects of degree attainment and math tests scores on bankruptcy risk do contribute to gap more than the different distributions of educational achievement by race. This suggests that the education achievement gap contributes far less to the high risk for filing for bankruptcy for Black Americans than the barriers high achieving Black Americans face in being able to leverage that success towards financial well-being, which shows support for hypothesis 4.

Conclusion and Discussion

Debt is not inherently negative and, in fact, can be an important precursor for building wealth in the US. However, the disproportionate economic vulnerability of Black Americans makes bankruptcy an effect of and contributor to economic and racial stratification. Much of the bankruptcy literature focuses on the proximal causes of filing for bankruptcy, but little is known about the broader social context that shapes bankruptcy risk. In this study, I make two contributions to the bankruptcy literature. First, most bankruptcy literature relies on educational attainment to test the relationship between education and bankruptcy, whereas I use signaling theory and human capital theory to distinguish the protective effects of educational achievement between getting a bachelor's degree as a credential and the development of cognitive skills. Second, I build on those findings to determine to what extent the relationship between education and bankruptcy differs by race and in what way that difference can explain the disproportionate risk of filing for bankruptcy for Black Americans.

Bachelor's degrees and high math test scores are each, independently and collectively, associated with a reduced risk of filing for bankruptcy suggesting that educational achievement might be protective against the severe financial hardship, but I am unable to prove a causal relationship with these analyses. Building on those findings, I disentangle the mediating and moderating effects of education on the relationship between race and bankruptcy. I find that the racial difference in the estimated effects of educational achievement is a larger contributing factor to the Black-White gap in bankruptcy filings than the difference in the distribution across education. So, even with improvements to math training and degree attainment, Black Americans would still be more likely to file for bankruptcy than their White counterparts, in part because White college graduates are uniquely associated with a reduced risk of filing for bankruptcy. I

have identified two mechanisms through which highly educated Black Americans may face barriers in capitalizing on their educational achievement. First, Black Americans face discrimination in the labor market. Second, Black Americans pay more for debt, which might counteract the benefits of a bachelor's degree or higher cognitive skills.

Future Research

This study is limited to racial differences in filing for bankruptcies, so I do not address racial differences in bankruptcy type or the successful completion of bankruptcy proceedings. Black Americans are more likely to file for chapter 13 bankruptcy than White Americans despite the lower income requirement of chapter 7 bankruptcy and the association with homeownership for chapter 13 bankruptcy (Braucher, Cohen, and Lawless 2012; Dickerson 2012). Not unrelated, Black Americans who file for bankruptcy are more likely to have their cases dismissed without any debt relief (Braucher, Cohen, and Lawless 2012). Racial inequality in the bankruptcy process and success of bankruptcies could have even stronger implications for racial inequality in financial health.

Though HS&B is rich in measures of degree attainment, I was unable to include measures of occupational attainment, wealth, and life events at the time of bankruptcy. Without these measures, I was limited in my ability to adequately explain the connection between education and bankruptcy and why it would differ by race. Although I was able to suggest that the racial gap in bankruptcy filings is linked to increased barriers to the middle class for Black Americans, the mechanisms driving that link are unclear. Differences in racial wealth, especially centering around homeownership as a help or hindrance, will be an important avenue for future research. Not only do racial minorities, especially Black Americans, have less wealth at every income level (Conley 2010), but some of the gap can be explained by racial differences in buying and keeping homes

(Killewald and Bryan 2016). Homeownership is linked to bankruptcy in that families may borrow against the worth of their home to prevent bankruptcy, but homeowners who are behind on payments may start the bankruptcy process to save their home.

Consistent with the literature, I find that having low or high degree attainment is associated with a lower risk of filing for bankruptcy. For this age group, however, there was not an increased risk of filing for bankruptcy in the "some college" group even when isolating those who would theoretically be at a higher risk. It could be that these cohorts were not being penalized for attempting college in the same way that more recent cohorts are being penalized, especially in the form of higher student loans. Student loans were not as much of a burden for this generation as they have been for more recent generations. Taking out student loans was only associated with filing for bankruptcy in midlife among Hispanic Americans in my study (See Table A3 in the appendix). However, it is unclear whether those student loans have a direct impact on midlife bankruptcy, or if they are a proxy for some other financial burden later in life like taking out parent plus loans to pay for their children to go to college.

In more recent cohorts, student loans could likely play are large role in the economic vulnerability of the Black middle class. Student loans have traditionally been an investment for a more prosperous future, but rising tuition costs mean the economic burden of going to college has also increased, especially for non-White students (Jackson and Reynolds 2013). Although student loans are not eligible for debt forgiveness under bankruptcy law, the economic resources devoted to paying off those loans and the accumulating interest impact borrowers' ability to build wealth, a protectant against bankruptcy. Those with high student loans payments may also rely more on credit to get by.

Future of the current study

As I prepare this study for publication, there are several improvements I plan to make to my modeling strategies and for sensitivity analysis. For the models, I plan to reduce the number of control variables. All the variables I included have theoretical relevance to my hypothesized pathways between education and bankruptcy, but most do not have a direct impact on the relationship between my focal independent variables and bankruptcy. Bankruptcy is a relatively rare event so minimizing the number of categorical variables in my models will allow me to better highlight my contribution. Parsimonious models are particularly important for the decomposition analysis. I will also formally test whether the average marginal effects of variables are statistically different across models.

Finally, I will pursue a modeling strategy where I test whether the math test effect (by race) varies between degree attainment groups. It is possible that whether and to what extent higher cognitive skills signal a reduced risk in filing for bankruptcy varies by degree attainment because of the occupational sorting that typically happens by education. If cognitive skills are a complementary benefit to having a bachelor's degree, then I would expect higher test scores to matter more among bachelor's degree holder. If cognitive skills are a supplementary benefit to degree attainment, then I would expect it to matter more to those without a degree.

There are four checks I plan to add as sensitivity analysis. First, I will rerun my analysis with an alternative specification of race. There is growing precedent to include classify respondents as their chosen race, regardless of Hispanic ethnicity. Not only is there evidence that Black-Hispanics are likely to have outcomes more similar to Non-Hispanic black Americans and Hispanics overall, but this specification of race will increase my analytic power among the black population in my sample. Second, I can equalize the specification of degree attainment so the timing matches across cohorts.

Currently, I measure degree attainment in the 6th year after graduation for the senior cohort and in the 10th year after graduation for the sophomore cohort. Using college transcript records that are available for the sophomore cohort, I can reduce the percentage bachelor's degree holders in the sophomore cohort to only include those who earned that degree by the 6th year after high school. Third, the weights I use have not been adjusted to account for HS&B members not in the study either because they did not match to the bankruptcy records or because they died, so I will adjust the weights in future analysis to account for those factors. Finally, I will use multiple imputation to better address the missing values in the data. My current method, mean and modal imputation, may bias my results.

Tables

Table 1. Descriptive Statistics (Before Imputation/Weighted)

	P/M	*SD*	% Missing
Bankruptcy	0.06		0.0%
Race			0.0%
Black†	0.11		
White	0.73		
Hispanic	0.11		
Other	0.05		
Degree Attainment*			2.1%
Less than High School	0.03		
High School Only†	0.29		
Non-Completer, bachelor's degree	0.14		
Non-Completer, other	0.15		
AA/Certificate	0.18		
Bachelor's Degree+	0.21		
Math Test Score, mean centered	0.24	4.34	13.9%
	min: -10.3	*max: 7.7*	
Male	0.48		0.0%
Seniors	0.45		0.0%
Drop Out Flag	0.06		0.0%
HS in Rural Area	0.29		0.0%
High School Region			0.0%
Northeast†	0.24		
North Central	0.28		
South	0.31		
West	0.18		
Parent Education			4.2%
High School or less†	0.42		
Some college (or vocational)	0.31		
BA/BS+	0.26		
Family Income, mean centered	0.23	1.8	20.4%
	min: -3	*max: 3*	
Family Owns Home	0.80		20.9%
Number of Siblings			13.3%
Only Child†	0.04		
1-2 Siblings	0.45		
3-4 Siblings	0.31		
5+ Siblings	0.20		
Foreign born Parents	0.09		9.5%
Educational Expectations			4.4%
High School or less†	0.21		
Some college (or vocational)	0.37		
BA/BS+	0.41		

Table 1 (continued)

Language Test Score, mean centered	0.17	3.78	14.0%
	min: -8.9	*max: 8.1*	
Took out Student Loans after HS	0.14		7.3%
Marital Status*			7.7%
Never Married†	0.49		
Married	0.44		
Previously Married	0.07		
Has Kids*	0.41		11.0%
Owned own home*	0.38		20.5%
N	*25390*		

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond Panel Sample Matched to CoreLogic Bankruptcy Data; † = Reference Category; * = derived from 1992 survey for sophomores and from the 1986 survey for seniors and sophomores who did not participate in the 1992 survey. P/M = proportion/mean; SD = Standard Deviation

Table 2. Descriptive Statistics by Race (Before Imputation/Weighted)

	Black		White		Hispanic	
	P/M	*SD*	*P/M*	*SD*	*P/M*	*SD*
Bankruptcy	0.10		0.05		0.06	
Degree Attainment						
Less than High School	0.05		0.02		0.06	
High School Only†	0.32		0.27		0.38	
Non-Completer, bachelor's degree	0.17		0.14		0.10	
Non-Completer, other	0.17		0.14		0.19	
AA/Certificate	0.19		0.18		0.18	
Bachelor's Degree+	0.10		0.25		0.09	
Math Test Score, mean centered	-2.78	(4.63)	1.08	(3.50)	-2.24	(5.65)
Demographic Controls						
Male	0.45		0.48		0.52	
Seniors	0.42		0.46		0.36	
Drop Out Flag	0.09		0.05		0.10	
HS in Rural Area	0.20		0.32		0.27	
High School Region						
Northeast†	0.22		0.25		0.17	
North Central	0.17		0.32		0.18	
South	0.54		0.26		0.38	
West	0.07		0.17		0.27	
Family SES/wealth Controls						
Parent Education						
High School or less†	0.52		0.38		0.56	
Some college (or vocational)	0.31		0.31		0.28	
BA/BS+	0.17		0.31		0.16	
Family Income, mean centered	-0.76	(2.32)	0.46	(1.41)	-0.40	(2.63)
Family Owns Home	0.60		0.84		0.74	
Number of Siblings						
Only Child†	0.05		0.04		0.05	
1-2 Siblings	0.31		0.48		0.35	
3-4 Siblings	0.30		0.31		0.31	
5+ Siblings	0.35		0.17		0.29	
Foreign born Parents	0.13		0.05		0.23	
School and Early Adulthood Controls						
Educational Expectations						
High School or less†	0.18		0.20		0.33	
Some college (or vocational)	0.41		0.36		0.40	
BA/BS+	0.41		0.43		0.27	
Language Test Score, mean centered	-2.44	(4.06)	0.92	(3.05)	-2.02	(4.85)
Took out Student Loans after HS	0.12		0.16		0.07	
Marital Status*						
Never Married†	0.64		0.47		0.45	
Married	0.28		0.47		0.45	
Previously Married	0.08		0.06		0.10	

Table 2 (continued)

Has Kids*	0.58	0.37	0.53
Owned own home*	0.26	0.40	0.38
N	*4,610*	*13,430*	*5,840*

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond Panel Sample Matched to CoreLogic Bankruptcy Data; † = Reference Category; * = derived from 1992 survey for sophomores and from the 1986 survey for seniors and sophomores who did not participate in the 1992 survey. P/M = proportion/mean; SD = Standard Deviation

Table 3. Average Marginal Effect on Bankruptcy Filings

	M1	M2	M3	M4	M5
Race					
White	-0.054***	-0.047***	-0.037***	-0.037***	-0.031***
Hispanic	-0.044***	-0.043***	-0.037***	-0.038***	-0.033***
Other	-0.055***	-0.048***	-0.043***	-0.041***	-0.037***
Educational Attainment					
Less than High School		-0.024*		-0.024*	-0.024**
Non-Completer, 4 year		-0.017**		-0.008	-0.004
Non-Completer, Other		-0.002		0.0005	0.002
AA/Certificate		-0.007		-0.002	-0.0004
Bachelor's Degree+		-0.041**		-0.031***	-0.025**
Math Test Score			-0.004***	-0.003***	-0.003**
Demographic Controls	yes	yes	yes	yes	yes
Other Controls	no	no	no	no	yes
Pseudo R-Squared	*0.034*	*0.025*	*0.031*	*0.031*	*0.028*

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond Panel Sample Matched to CoreLogic Bankruptcy Data; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1; Controls and flags for missing values shown in Table A1 in the appendix

Table 4. Race-Education Interactions

	Base Model		Race*EA		Race*Math	
Race						
White	0.605	***	0.628	***	0.527	***
Hispanic	0.571	***	0.493	**	0.486	***
Other	0.532	**	0.779		0.439	***
Degree Attainment*						
Less than High School	0.594	*	**0.501**		0.594	*
Non-Completer, bachelor's degree	0.938		1.174		0.934	
Non-Completer, other	1.029		0.776		1.029	
AA/Certificate	0.994		1.013		0.992	
Bachelor's Degree+	0.568	**	**0.885**		0.576	**
Math Test Score	0.953	**	0.953	**	**1.004**	
Race*Educational Attainment						
WHITE: Less than High School			1.208			
WHITE: Non-Completer, bachelor's degree			0.682			
WHITE: Non-Completer, other			1.454			
WHITE: AA/Certificate			0.955			
WHITE: Bachelor's Degree+			**0.566**	+		
HISP: Less than High School			1.970			
HISP: Non-Completer, bachelor's degree			1.287			
HISP: Non-Completer, other			1.550			
HISP: AA/Certificate			1.174			
HISP: Bachelor's Degree+			1.031			
OTHER: Less than High School			-			
OTHER: Non-Completer, bachelor's degree			0.399	+		
OTHER: Non-Completer, other			0.484			
OTHER: AA/Certificate			0.659			
OTHER: Bachelor's Degree+			0.382			
Race*Math Test Scores						
WHITE: math test score					**0.939**	**
HISP: math test score					**0.940**	*
OTHER: math test score					**0.889**	*
Pseudo R-Squared	*0.038*		*0.040*		*0.039*	

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond Panel Sample Matched to CoreLogic Bankruptcy Data; *** p<0.001, ** p<0.01, * p<0.05, + p<0.1; Full models, including coefficients for controls and flags for missing values, can be seen in Table A2 in the appendix.

Table 5. Oaxaca-Blinder Decomposition for Black-White Gap in Bankruptcy Filings

	Black-White Decomposition		
Aggregate Contributions to the Gap	Coef.	P>z	%
Distributions	-0.05798	0.603	**-10.23**
Coefficients/Effects	0.62447	0.000	**110.23**
R	0.56649	0.000	

Detailed: Due to Difference in Distributions

Variable	Coef.	P>z	%
DA: Less than High School	-0.01167	0.533	-2.06
DA: High School	0.01741	0.466	3.07
DA: Non-Completer - bachelor's degree	0.01474	0.476	2.6
DA: Non-Completer - other	-0.00578	0.532	-1.02
DA: AA/certificate	0.00062	0.845	0.11
DA: Bachelor's degree+	-0.00206	0.969	-0.36
Math test scores	-0.08672	0.511	-15.31

Detailed: Due to Difference in Coefficients/Effects

Variables	Coef.	P>z	%
DA: Less than High School	-0.00199	0.82	-0.35
DA: High School	-0.00134	0.973	-0.24
DA: Non-Completer - bachelor's degree	0.03412	0.16	6.02
DA: Non-Completer - other	-0.05583	**0.024**	**-9.86**
DA: AA/certificate	-0.02397	0.379	-4.23
DA: Bachelor's degree+	0.08901	**0.087**	**15.71**
Math test scores	0.05357	**0.015**	**9.46**
Constant	0.63997	**0.017**	**112.97**

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond Panel Sample Matched to CoreLogic Bankruptcy Data; DA = Degree Attainment, AA = Associate Degree; Bolded values are significant at the .10 level or lower (exact significance level can be seen in the P>z column, also bolded).

Appendix

Table A1. Full version of Table 3, Average Marginal Effect on Bankruptcy Filings

	M1	M2	M3	M4	M5
Race					
White	-0.054***	-0.047***	-0.037***	-0.037***	-0.031***
Hispanic	-0.044***	-0.043***	-0.037***	-0.038***	-0.033***
Other	-0.055***	-0.048***	-0.043***	-0.041***	-0.037***
Highest Educational Attainment*					
Less than High School		-0.024*		-0.024*	-0.024**
Non-Completer, bachelor's degree		-0.017**		-0.008	-0.004
Non-Completer, other		-0.002		0.0005	0.002
AA/Certificate		-0.007		-0.002	-0.0004
Bachelor's Degree+		-0.041***		-0.031***	-0.025**
Math Test Score, mean centered			-0.004***	-0.003***	-0.003**
Demographic/HS Controls					
Male	-0.002	-0.002	0.0004	-0.0001	0.002
Seniors	-0.012**	-0.014**	-0.012**	-0.014**	-0.013**
Drop Out Flag	0.008	0.005	-0.003	0.001	-0.004
HS in Rural Area	-0.011*	-0.013*	-0.012*	-0.013*	-0.015**
High School Region					
North Central	0.011+	0.010+	0.010+	0.01	0.008
South	0.010	0.008	0.007	0.007	0.004
West	0.012+	0.010	0.011	0.01	0.01
Family Background					
Parent Education					
Some college (or vocational)					0.003
BA/BS+					-0.012*
Family Income, mean centered					-0.002
Family Owns Home					-0.003
Number of Siblings					-0.001
Foreign born Parents					-0.01
Early Adulthood Controls					
Educational Expectations					
Some college (or vocational)					0.0003
BA/BS+					0.003
Language Test Score, mean centered					-0.0007
Took out Student Loans after HS					0.001
Marital Status*					
Married					0.004
Previously Married					0.011
Has Kids*					0.012*
Owned own home*					-0.011*
Missing Flags					
Educational Attainment		-0.017		-0.017	0.008

Table A1 (continued)

Math Test Score			0.009	0.008	-0.006
Language Test Score					0.014
Parent Education					0.006
Family Income					-0.006
Parental Home Ownership					-0.002
Foreign born Parents					-0.01
Number of Siblings					0.01
Marital Status					-0.009
Kids					-0.003
Educational Expectations					-0.007
Loans					-0.015+
Own Homeownership					0.001
Pseudo R-Squared	*0.016*	*0.027*	*0.025*	*0.031*	*0.0376*

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond Panel Sample Matched to CoreLogic Bankruptcy Data;

Table A2. Full Version of Table 4, Race-Education Interactions

			Interactions			
	Base		Race*Ed		Race*Math	
Race						
White	0.605	***	0.628	***	0.527	***
Hispanic	0.571	***	0.493	**	0.486	***
Other	0.532	**	0.779		0.439	***
Highest Educational Attainment*						
Less than High School	0.594	*	0.501		0.594	*
Non-Completer, bachelor's	0.938		1.174		0.934	
Non-Completer, other	1.029		0.776		1.029	
AA/Certificate	0.994		1.013		0.992	
Bachelor's Degree+	0.568	**	0.885		0.576	**
Math Test Score	0.953	**	0.953	**	1.004	
Race*Educational Attainment						
WHITE: Less than High School			1.208			
WHITE: Non-Completer, bachelor's					0.682	
WHITE: Non-Completer, other			1.454			
WHITE: AA/Certificate			0.955			
WHITE: Bachelor's Degree+			0.566	+		
HISP: Less than High School			1.970			
HISP: Non-Completer, bachelor's					1.287	
HISP: Non-Completer, other			1.550			
HISP: AA/Certificate			1.174			
HISP: Bachelor's Degree+			1.031			
OTHER: Less than High School			-			
OTHER: Non-Completer, bachelor's					0.399	+
OTHER: Non-Completer, other			0.484			
OTHER: AA/Certificate			0.659			
OTHER: Bachelor's Degree+			0.382			
Race*Math Test Scores						
WHITE: math test score					0.939	**
HISP: math test score					0.940	*
OTHER: math test score					0.889	*
Family Background						
Parent Education						
Some college (or vocational)	1.055		1.060		1.058	
BA/BS+	0.785	*	0.801	+	0.791	*
Family Income, mean centered	0.968		0.968		0.968	
Family Owns Home	0.947		0.945		0.952	
Foreign born Parents	0.828		0.851		0.845	
Demographic/HS Controls						
Male	1.048		1.045		1.048	
Seniors	0.781	**	0.779	**	0.781	**
Drop Out Flag	0.932		0.958		0.935	

Table A2 (continued)

HS in Rural Area	0.742	**	0.745	**	0.742	**
High School Region						
North Central	1.175		1.174		1.173	
South	1.089		1.087		1.088	
West	1.204		1.205		1.202	
Personal Controls						
Educational Expectations						
Some college (or vocational)	1.005		1.002		1.011	
BA/BS+	1.064		1.064		1.071	
Language Test Score	0.987		0.987		0.988	
Took out Student Loans after HS	1.026		1.030		1.026	
Marital Status*						
Married	1.074		1.065		1.064	
Previously Married	1.231		1.220		1.218	
Has Kids*	1.251	*	1.251	*	1.255	*
Owned own home*	0.812	*	0.810	*	0.813	*
Missing Flags						
Educational Attainment	1.157		1.013		1.180	
Math Test Score	0.886		0.870		0.865	
Language Test Score	1.308		1.317		1.309	
Parent Education	1.121		1.096		1.144	
Family Income	0.897		0.899		0.902	
Parental Home Ownership	0.968		0.955		0.961	
Foreign born Parents	0.827		0.828		0.832	
Number of Siblings	1.209		1.228		1.220	
Marital Status	0.837		0.839		0.830	
Kids	0.945		0.958		0.937	
Educational Expectations	1.134		1.125		1.130	
Loans	0.752	+	0.737	+	0.748	+
Own Homeownership	1.022		1.012		1.028	
Constant	0.110	***	0.108	***	0.124	***
Pseudo R-Squared	*0.038*		*0.040*		*0.039*	

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond Panel Sample Matched to CoreLogic Bankruptcy Data;

Table A3. Race Separate Logistic Regression Models Predicting Bankruptcy, Presented as AMEs

	Black		White		Hispanic	
Highest Educational Attainment*						
Less than High School	-0.046		-0.021	+	-0.008	
Non-Completer, bachelor's degree	0.015		-0.011		0.021	
Non-Completer, other	-0.03		-0.008		0.008	
AA/Certificate	-0.013		0.001		0.003	
Bachelor's Degree+	-0.017		-0.026	***	-0.013	
Math Test Score, mean centered	0.002		-0.003	**	-0.004	*
Family Background						
Parent Education						
Some college (or vocational)	0.025	+	-0.001		-0.001	
BA/BS+	-0.009		-0.011	+	-0.016	
Family Income, mean centered	-0.006		-0.002		0.003	
Family Owns Home	0.015		-0.006		-0.017	
Number of Siblings	-0.01		0.001		-0.003	
Foreign born Parents	-0.03		-0.004		0.003	
Demographic/HS Controls						
Male	-0.025	+	0.007		-0.003	
Seniors	0.008		-0.015	**	-0.018	+
Drop Out Flag	-0.008		-0.001	*	-0.017	
HS in Rural Area	-0.024		-0.014		-0.011	
High School Region						
North Central	0.055	**	0.0002		0.019	
South	0.049	**	-0.004		0.01	
West	0.13	***	0.001		0.014	
Personal Controls						
Educational Expectations						
Some college (or vocational)	0.007		-0.001		0.001	
BA/BS+	-0.04		0.012		-0.001	
Language Test Score, mean centered	-0.002		-0.0001		-0.002	
Took out Student Loans after HS	0.015		-0.006		0.041	*
Marital Status*						
Married	0.026		-0.001		0.004	
Previously Married	0.051		0.003		0.01	
Has Kids*	0.005		0.016	**	0.006	
Owned own home*	0.011		-0.012	*	-0.011	
Missing Flags						
Educational Attainment	-0.018		-0.014		-0.018	
Math Test Score	0.027		-0.021		-0.008	

Table A3 (continued)

Language Test Score	-0.002		0.025		0.037	
Parent Education	-0.02		0.021	+	-0.012	
Family Income	-0.011		-0.006		0.002	
Parental Home Ownership	-0.022		0.002		0.013	
Foreign born Parents	0.042	+	-0.015		-0.034	+
Number of Siblings	0.016		0.006		0.018	
Marital Status	-0.075	+	-0.005		-0.008	
Kids	-0.02		0.002		-0.037	+
Educational Expectations	0.008		0.012		-0.029	
Loans	-0.005		-0.008		-0.043	*
Own Homeownership	0.044		-0.011		0.023	
Pseudo R-Squared	*0.056*		*0.039*		*0.042*	

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond Panel Sample Matched to CoreLogic Bankruptcy Data;

Table A4. Full version of Table 5, Black-White Decomposition

Aggregate Contributions	Coef.	Std. Err	P>z	[95% Conf.	Interval]	Percent
Distributions	-0.058	0.111	0.603	-0.276	0.160	-10.23
Coefficients/Effects	0.624	0.129	0.000	0.371	0.878	110.23
R	0.566	0.073	0.000	0.424	0.709	

Detailed: Due to Difference in Characteristics – (E)

Variable	Coef.	Std. Err.	P>z	[95% Conf.	Interval]	Percent
DA: Less than high school	-0.012	0.019	0.533	-0.048	0.025	-2.06
DA: High School	0.017	0.024	0.466	-0.029	0.064	3.07
DA: Non-Completer, bachelor's	0.015	0.021	0.476	-0.026	0.055	2.6
DA: Non-Completer, other	-0.006	0.009	0.532	-0.024	0.012	-1.02
DA: AA/certificate	0.001	0.003	0.845	-0.006	0.007	0.11
DA: Bachelor's	-0.002	0.053	0.969	-0.106	0.102	-0.36
Math test scores	-0.087	0.132	0.511	-0.345	0.172	-15.31
Parent Ed: HS or Less	-0.024	0.036	0.507	-0.093	0.046	-4.17
Parent Ed: Some college	-0.011	0.014	0.428	-0.037	0.016	-1.9
Parent Ed: Bach+	0.036	0.056	0.521	-0.074	0.146	6.37
Family Income	0.070	0.107	0.510	-0.139	0.280	12.44
Parental Homeownership	-0.036	0.048	0.459	-0.130	0.059	-6.3
Sib: only child	-0.001	0.001	0.399	-0.003	0.001	-0.17
Sib: 1-2 sibs	0.026	0.034	0.441	-0.041	0.093	4.64
Sib: 3-4 sibs	0.011	0.015	0.490	-0.020	0.041	1.88
Sib: 5+ sibs	-0.034	0.041	0.410	-0.115	0.047	-6.02
Parents Foreign Born	-0.028	0.037	0.444	-0.101	0.044	-5
Male	0.011	0.015	0.460	-0.018	0.041	1.97
Senior Flag	-0.004	0.010	0.688	-0.025	0.016	-0.74
Rural Flag	0.045	0.073	0.536	-0.098	0.189	8.02
Region: Northeast	0.035	0.042	0.408	-0.047	0.117	6.11
Region: North central	-0.007	0.031	0.833	-0.067	0.054	-1.15
Region: South	-0.004	0.056	0.936	-0.113	0.104	-0.79
Region: West	-0.094	0.115	0.413	-0.319	0.131	-16.61
Dropout Flag	-0.004	0.025	0.886	-0.052	0.045	-0.63
Ed expect: HS or less	-0.004	0.007	0.539	-0.017	0.009	-0.73
Ed expect: Some Extended Ed	0.012	0.015	0.429	-0.018	0.042	2.13
Ed expect: Bach+	0.006	0.007	0.375	-0.008	0.020	1.12
Language Test score	0.075	0.150	0.617	-0.218	0.368	13.23
School loans after HS	-0.010	0.017	0.535	-0.043	0.022	-1.82
Marital: Never Married	-0.068	0.077	0.380	-0.220	0.084	-12.02
Marital: Married	-0.005	0.040	0.903	-0.084	0.074	-0.86

Table A4 (continued)

Marital: Previously married	0.003	0.003	0.446	-0.004	0.009	0.45
Kids	0.015	0.050	0.766	-0.083	0.113	2.62
Home Ownership	-0.024	0.053	0.654	-0.128	0.080	-4.2
Mi: Degree Attainment	-0.003	0.014	0.817	-0.032	0.025	-0.59
Mi: Math Test Scores	0.002	0.004	0.588	-0.005	0.009	0.35
Mi: Language Test Scores	-0.008	0.013	0.522	-0.033	0.017	-1.44
Mi: Parent Education	-0.024	0.043	0.575	-0.109	0.060	-4.28
Mi: Family Income	-0.019	0.034	0.576	-0.085	0.047	-3.32
Mi: Parent homeownership	-0.051	0.068	0.453	-0.185	0.083	-9.07
Mi: Siblings	0.084	0.116	0.472	-0.144	0.312	14.79
Mi: Foreign born parents	0.052	0.065	0.423	-0.075	0.179	9.15
Mi: Educational expectations	0.002	0.010	0.827	-0.017	0.021	0.37
Mi: Loans	-0.002	0.012	0.878	-0.024	0.021	-0.31
Mi: Marital Status	-0.057	0.074	0.438	-0.201	0.087	-10.07
Mi: Kids	-0.016	0.040	0.681	-0.094	0.061	-2.87
Mi: Home ownership	0.069	0.087	0.429	-0.101	0.239	12.13

Detailed: Due to Difference in Coefficients – (C)

Variables	Coef.	Std.	P>z	[95% Conf.	Interval]	Percent
DA: Less than high school	-0.002	0.009	0.820	-0.019	0.015	-0.35
DA: High School	-0.001	0.040	0.973	-0.080	0.077	-0.24
DA: Non-Completer, bachelor's	0.034	0.024	0.160	-0.013	0.082	6.02
DA: Non-Completer, other	-0.056	0.025	**0.024**	-0.104	0.007	**-9.86**
DA: AA/certificate	-0.024	0.027	0.379	-0.077	0.029	-4.23
DA: Bachelor's	0.089	0.052	**0.087**	-0.013	0.191	**15.71**
Math test scores	0.054	0.022	**0.015**	0.010	0.097	**9.46**
Parent Ed: HS or Less	-0.056	0.041	0.167	-0.136	0.023	-9.9
Parent Ed: Some college	0.045	0.032	0.157	-0.017	0.107	7.92
Parent Ed: Bach+	-0.001	0.037	0.973	-0.074	0.072	-0.22
Family Income	-0.001	0.015	0.952	-0.031	0.029	-0.17
Parental Homeownership	0.205	0.145	0.157	-0.079	0.489	36.16
Sib: only child	0.026	0.009	**0.003**	0.009	0.043	**4.62**
Sib: 1-2 sibs	-0.179	0.075	**0.017**	-0.326	0.032	**-31.57**
Sib: 3-4 sibs	-0.061	0.034	**0.074**	-0.129	0.006	**-10.83**
Sib: 5+ sibs	-0.025	0.019	0.191	-0.062	0.012	-4.39
Parents Foreign Born	-0.008	0.012	0.511	-0.030	0.015	-1.34
Male	-0.152	0.071	**0.032**	-0.291	0.013	**-26.86**
Senior Flag	0.137	0.066	**0.039**	0.007	0.267	**24.2**
Rural Flag	0.012	0.053	0.822	-0.092	0.116	2.1
Region: Northeast	-0.129	0.044	**0.003**	-0.215	0.043	**-22.83**

Table A4 (continued)

Region: North central	0.002	0.039	0.952	-0.074	0.079	0.42
Region: South	0.012	0.032	0.717	-0.051	0.074	2.03
Region: West	0.078	0.033	**0.020**	0.012	0.143	**13.7**
Dropout Flag	-0.002	0.022	0.939	-0.045	0.042	-0.3
Ed expect: HS or less	0.026	0.025	0.295	-0.023	0.075	4.58
Ed expect: Some Extended Ed	0.075	0.033	**0.025**	0.009	0.140	**13.19**
Ed expect: Bach+	-0.172	0.060	**0.004**	-0.290	0.055	**-30.44**
Language Test score	-0.009	0.021	0.680	-0.051	0.033	-1.56
School loans after HS	0.035	0.033	0.289	-0.030	0.101	6.24
Marital: Never Married	-0.092	0.064	0.148	-0.217	0.033	-16.26
Marital: Married	0.018	0.056	0.744	-0.091	0.127	3.2
Marital: Previously married	0.009	0.010	0.378	-0.011	0.028	1.52
Kids	-0.068	0.056	0.221	-0.178	0.041	-12.08
Home Ownership	0.098	0.063	0.116	-0.024	0.221	17.36
Mi: Degree Attainment	0.001	0.009	0.917	-0.017	0.019	0.17
Mi: Math Test Scores	0.095	0.078	0.220	-0.057	0.248	16.84
Mi: Language Test Scores	-0.113	0.076	0.135	-0.261	0.035	-19.97
Mi: Parent Education	-0.011	0.006	**0.095**	-0.024	0.002	**-1.91**
Mi: Family Income	-0.003	0.043	0.950	-0.086	0.081	-0.47
Mi: Parent homeownership	-0.045	0.052	0.386	-0.147	0.057	-7.96
Mi: Siblings	0.040	0.043	0.352	-0.045	0.125	7.12
Mi: Foreign born parents	0.077	0.033	**0.021**	0.011	0.142	**13.54**
Mi: Educational expectations	-0.011	0.029	0.708	-0.068	0.046	-1.92
Mi: Loans	0.005	0.015	0.733	-0.025	0.035	0.91
Mi: Marital Status	-0.030	0.025	0.238	-0.079	0.020	-5.25
Mi: Kids	-0.014	0.036	0.695	-0.086	0.057	-2.52
Mi: Home ownership	0.077	0.047	0.103	-0.016	0.170	13.66
Constant	0.640	0.268	**0.017**	0.115	1.165	112.97

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond Panel Sample Matched to CoreLogic Bankruptcy Data; Bolded values are significant at the .10 level or lower (exact significance level can be seen in the P>z column, also bolded).

Table A5. Full version of Black-Hispanic Decomposition

Aggregate Contributions	Coef.	Std. Err.	P>z	[95% Conf.	Interval]	Percent
Distributions	-0.217	0.112	0.053	-0.436	0.003	-48.58
Coefficients/Effects	0.663	0.149	0.000	0.370	0.956	148.58
R	0.446	0.085	0.000	0.280	0.613	

Detailed: Due to Difference in Characteristics (E)

Variable	Coef.	Std. Err.	P>z	[95% Conf.	Interval]	Percent
DA: Less than high school	0.006	0.006	0.336	-0.006	0.017	1.260
DA: High School	-0.014	0.011	0.219	-0.036	0.008	-3.080
DA: Non-Completer, bachelor's	0.027	0.016	**0.085**	-0.004	0.057	**5.990**
DA: Non-Completer, other	0.004	0.005	0.384	-0.006	0.014	0.990
DA: AA/certificate	0.000	0.001	0.837	-0.002	0.003	0.060
DA: Bachelor's	0.000	0.004	0.969	-0.007	0.007	0.030
Math test scores	-0.009	0.013	0.469	-0.034	0.015	-2.030
Parent Ed: HS or Less	0.003	0.003	0.406	-0.004	0.010	0.640
Parent Ed: Some college	0.006	0.003	**0.024**	0.001	0.011	**1.370**
Parent Ed: Bach+	-0.001	0.001	0.236	-0.003	0.001	-0.270
Family Income	0.013	0.011	0.248	-0.009	0.036	2.970
Parental Homeownership	-0.016	0.016	0.319	-0.048	0.016	-3.630
Sib: only child	-0.003	0.001	**0.006**	-0.005	-0.001	**-0.700**
Sib: 1-2 sibs	-0.004	0.002	**0.037**	-0.008	0.000	**-0.960**
Sib: 3-4 sibs	0.005	0.005	0.297	-0.005	0.015	1.150
Sib: 5+ sibs	-0.006	0.003	0.106	-0.012	0.001	-1.240
Parents Foreign Born	0.035	0.031	0.257	-0.025	0.094	7.740
Male	0.019	0.012	0.101	-0.004	0.042	4.310
Senior Flag	0.004	0.009	0.673	-0.014	0.022	0.870
Rural Flag	0.022	0.016	0.181	-0.010	0.053	4.830
Region: Northeast	-0.035	0.012	**0.002**	-0.058	-0.013	**-7.940**
Region: North central	0.000	0.001	0.838	-0.003	0.002	-0.060
Region: South	-0.002	0.026	0.938	-0.053	0.049	-0.450
Region: West	-0.153	0.064	**0.018**	-0.279	-0.027	**-34.310**
Dropout Flag	0.001	0.004	0.883	-0.008	0.009	0.140
Ed expect: HS or less	-0.017	0.024	0.471	-0.064	0.030	-3.880
Ed expect: Some Extended Ed	0.001	0.001	**0.067**	0.000	0.002	**0.220**
Ed expect: Bach+	-0.049	0.020	**0.016**	-0.089	-0.009	**-10.980**
Language Test score	0.007	0.011	0.538	-0.015	0.029	1.550
School loans after HS	0.010	0.013	0.439	-0.015	0.035	2.220
Marital: Never Married	-0.054	0.029	**0.058**	-0.110	0.002	**-12.130**

Table A5 (continued)

Marital: Married	-0.003	0.027	0.904	-0.056	0.049	-0.730
Marital: Previously married	-0.007	0.005	0.182	-0.017	0.003	-1.520
Kids	0.003	0.008	0.726	-0.012	0.018	0.610
Home Ownership	-0.013	0.024	0.595	-0.060	0.034	-2.860
Mi: Degree Attainment	-0.001	0.003	0.813	-0.006	0.005	-0.150
Mi: Math Test Scores	0.002	0.003	0.486	-0.004	0.008	0.470
Mi: Language Test Scores	-0.004	0.004	0.381	-0.011	0.004	-0.790
Mi: Parent Education	-0.008	0.011	0.454	-0.030	0.014	-1.870
Mi: Family Income	-0.010	0.015	0.490	-0.039	0.019	-2.270
Mi: Parent homeownership	-0.014	0.014	0.312	-0.042	0.014	-3.220
Mi: Siblings	0.032	0.021	0.126	-0.009	0.074	7.270
Mi: Foreign born parents	0.022	0.011	**0.052**	0.000	0.043	**4.830**
Mi: Educational expectations	0.003	0.013	0.829	-0.022	0.027	0.610
Mi: Loans	0.000	0.001	0.876	-0.002	0.002	0.030
Mi: Marital Status	-0.022	0.012	**0.065**	-0.046	0.001	**-5.040**
Mi: Kids	-0.004	0.009	0.674	-0.020	0.013	-0.810
Mi: Home ownership	0.010	0.007	0.162	-0.004	0.023	2.180

Detailed: Due to difference in Coefficients – (C)

Variables	Coef.	Std. Err.	P>z	[95% Conf.	Interval]	Percent
DA: Less than high school	-0.010	0.027	0.707	-0.062	0.042	-2.23
DA: High School	0.074	0.084	0.375	-0.090	0.238	16.62
DA: Non-Completer, bachelor's	-0.001	0.024	0.979	-0.048	0.047	-0.15
DA: Non-Completer, other	-0.047	0.045	0.296	-0.136	0.041	-10.62
DA: AA/certificate	-0.001	0.040	0.979	-0.080	0.078	-0.23
DA: Bachelor's	0.022	0.030	0.468	-0.037	0.080	4.83
Math test scores	-0.131	0.063	**0.037**	-0.254	-0.008	**-29.34**
Parent Ed: HS or Less	-0.112	0.089	0.212	-0.287	0.064	-25.01
Parent Ed: Some college	0.043	0.041	0.298	-0.038	0.123	9.58
Parent Ed: Bach+	0.004	0.030	0.900	-0.056	0.063	0.85
Family Income	0.029	0.018	0.115	-0.007	0.064	6.43
Parental Homeownership	0.329	0.188	**0.080**	-0.040	0.697	**73.63**
Sib: only child	0.031	0.015	**0.036**	0.002	0.059	**6.88**
Sib: 1-2 sibs	-0.234	0.100	**0.019**	-0.429	-0.039	**-52.45**
Sib: 3-4 sibs	-0.029	0.047	0.535	-0.121	0.063	-6.53
Sib: 5+ sibs	-0.044	0.045	0.335	-0.133	0.045	-9.8
Parents Foreign Born	-0.064	0.057	0.267	-0.176	0.049	-14.24
Male	-0.094	0.109	0.387	-0.307	0.119	-21.05
Senior Flag	0.117	0.075	0.122	-0.031	0.265	26.14

Table A5 (continued)

Rural Flag	-0.018	0.071	0.802	-0.158	0.122	-4.02
Region: Northeast	-0.072	0.041	**0.080**	-0.152	0.009	**-16.05**
Region: North central	-0.017	0.034	0.611	-0.083	0.049	-3.82
Region: South	0.000	0.065	0.997	-0.127	0.128	0.06
Region: West	0.141	0.072	**0.051**	0.000	0.283	**31.69**
Dropout Flag	0.019	0.049	0.696	-0.077	0.116	4.31
Ed expect: HS or less	0.027	0.054	0.619	-0.078	0.132	5.98
Ed expect: Some Extended Ed	0.059	0.051	0.250	-0.042	0.160	13.26
Ed expect: Bach+	-0.080	0.057	0.157	-0.192	0.031	-18
Language Test score	-0.029	0.067	0.664	-0.161	0.102	-6.54
School loans after HS	-0.030	0.022	0.178	-0.073	0.013	-6.65
Marital: Never Married	-0.075	0.085	0.380	-0.242	0.092	-16.78
Marital: Married	0.013	0.077	0.870	-0.138	0.163	2.81
Marital: Previously married	0.011	0.023	0.628	-0.034	0.056	2.51
Kids	-0.014	0.110	0.897	-0.230	0.201	-3.19
Home Ownership	0.077	0.080	0.333	-0.079	0.233	17.26
Mi: Degree Attainment	0.003	0.020	0.894	-0.036	0.041	0.59
Mi: Math Test Scores	0.064	0.105	0.541	-0.142	0.270	14.37
Mi: Language Test Scores	-0.155	0.106	0.145	-0.363	0.053	-34.7
Mi: Parent Education	-0.002	0.032	0.946	-0.065	0.060	-0.49
Mi: Family Income	-0.038	0.068	0.573	-0.171	0.094	-8.54
Mi: Parent homeownership	-0.122	0.098	0.214	-0.314	0.070	-27.3
Mi: Siblings	0.044	0.078	0.577	-0.110	0.197	9.81
Mi: Foreign born parents	0.152	0.065	**0.020**	0.024	0.279	**34.00**
Mi: Educational expectations	0.035	0.045	0.430	-0.053	0.123	7.93
Mi: Loans	0.049	0.033	0.136	-0.015	0.114	11.02
Mi: Marital Status	-0.046	0.039	0.238	-0.121	0.030	-10.22
Mi: Kids	0.051	0.064	0.424	-0.075	0.177	11.52
Mi: Home ownership	0.012	0.097	0.903	-0.178	0.202	2.66
Constant	0.722	0.378	**0.056**	-0.019	1.463	**161.79**

SOURCE: U.S. Department of Education, National Center for Education Statistics, High School & Beyond Panel Sample Matched to CoreLogic Bankruptcy Data; DA = Degree Attainment, AA = Associate Degree, Mi = Missing Values; Bolded values are significant at the .10 level or lower (exact significance level can be seen in the P>z column, also bolded).

References

Bak, Thomas, John Golmani, and James Woods. 2008. "A Comparison of the Effects of the 1978 and 2005 Bankruptcy Reform Legislation on Bankruptcy Filing Rates." *Emory Bankruptcy Developments Journal* 25(1):11–38.

Bauchet, Jonathan, and David Evans. 2019. "Personal Bankruptcy Determinants Among U.S. Households During the Peak of the Great Recession." *Journal of Family and Economic Issues* 40(4):577–91.

Beeman, Angie, Davita Silfen Glasberg, and Colleen Casey. 2011. "Whiteness as Property: Predatory Lending and the Reproduction of Racialized Inequality." *Critical Sociology* 37(1):27–45.

BLS. 2019. "Unemployment Rates and Earnings by Educational Attainment: U.S. Bureau of Labor Statistics." Retrieved May 6, 2020 (https://www.bls.gov/emp/chart-unemployment-earnings-education.htm).

Braucher, Jean, Dov Cohen, and Robert M. Lawless. 2012. "Race, Attorney Influence, and Bankruptcy Chapter Choice." *Journal of Empirical Legal Studies* 9(3):393–429.

Byun, Soo-yong, Matthew J. Irvin, and Bethany A. Bell. 2015. "Advanced Math Course Taking: Effects on Math Achievement and College Enrollment." *The Journal of Experimental Education* 83(4):439–68.

Casey, Colleen, Davita Silfen Glasberg, and Angie Beeman. 2011. "Racial Disparities in Access to Mortgage Credit: Does Governance Matter?" *Social Science Quarterly* 92(3):782–806.

Charles, Kerwin Kofi, Erik Hurst, and Melvin Stephens. 2008. "Rates for Vehicle Loans: Race and Loan Source." *The American Economic Review* 98(2):315–20.

Chiteji, N. S., and Darrick Hamilton. 2002. "Family Connections and the Black-White Wealth Gap among Middle-Class Families." *The Review of Black Political Economy* 30(1):9–28.

Conley, Dalton. 2010. *Being Black, Living in the Red: Race, Wealth, and Social Policy in America*. 10th Anniversary Edition. Berkeley: University of California Press.

Dickerson, A. Mechele. 2012. "Racial Steering in Bankruptcy and Race: Is There a Relation." *American Bankruptcy Institute Law Review* (2):623–50.

Fisher, Jonathan D. 2019. "Who Files for Personal Bankruptcy in the United States?" *Journal of Consumer Affairs* 53(4):2003–26.

Frank, Robert H. 2013. "How Can Middle-Class Families Afford to Keep Up?" Pp. 78–86 in *Falling Behind, How Rising Inequality Harms the Middle Class*. University of California Press.

Gaddis, S. Michael. 2015. “Discrimination in the Credential Society: An Audit Study of Race and College Selectivity in the Labor Market.” *Social Forces* 93(4):1451–79.

Goldsmith, Arthur, Jonathan Veum, and William Darity. 1997. “The Impact of Psychological and Human Capital on Wages.” *Economic Inquiry* 35: 815–29.

Gould-Werth, Alix. 2018. “After the Rainy Day: How Private Resources Shape Personal Trajectories Following Job Loss and Amplify Racial Inequality.” *Sociology of Race and Ethnicity* 4(3):371–85.

Herring, Cedric, and Loren Henderson. 2016. “Wealth Inequality in Black and White: Cultural and Structural Sources of the Racial Wealth Gap.” *Race and Social Problems*; New York 8(1):4–17.

Himmelstein, David U., Robert M. Lawless, Deborah Thorne, Pamela Foohey, and Steffie Woolhandler. 2019. “Medical Bankruptcy: Still Common Despite the Affordable Care Act.” *American Journal of Public Health* 109(3):431–33.

Hout, Michael. 2012. “Social and Economic Returns to College Education in the United States.” *Annual Review of Sociology* 38(1):379–400.

Jackson, Brandon A., and John R. Reynolds. 2013. “The Price of Opportunity: Race, Student Loan Debt, and College Achievement.” *Sociological Inquiry* 83(3):335–68.

Kao, Grace, and Jennifer S. Thompson. 2003. “Racial and Ethnic Stratification in Educational Achievement and Attainment.” *Annual Review of Sociology* 29(1):417–42.

Kiel, Paul, and Hannah Fresques. 2017. “Data Analysis: Bankruptcy and Race in America.” ProPublica. Retrieved November 24, 2019 (https://projects.propublica.org/graphics/bankruptcy-data-analysis).

Killewald, Alexandra, and Brielle Bryan. 2016. “Does Your Home Make You Wealthy?” *RSF: The Russell Sage Foundation Journal of the Social Sciences* 2(6):110–28.

Maroto, Michelle. 2012. “The Scarring Effects of Bankruptcy: Cumulative Disadvantage Across Credit and Labor Markets.” *Social Forces* 91(1):99–130.

Maroto, Michelle Lee. 2015. “Pathways into Bankruptcy: Accumulating Disadvantage and the Consequences of Adverse Life Events.” *Sociological Inquiry* 85(2):183–216.

Mood, Carina. 2010. “Logistic Regression: Why We Cannot Do What We Think We Can Do, and What We Can Do About It.” *European Sociological Review* 26(1):67–82.

Pace, Levi N., and Jean M. Lown. 2016. “Consumer Bankruptcy.” Pp. 315–26 in *Handbook of Consumer Finance Research*, edited by J. J. Xiao. Cham: Springer International Publishing.

Porter, Katherine. 2010. “Life after Debt: Understanding the Credit Restraint of Bankruptcy Debtors.” *American Bankruptcy Institute Law Review* 18(1):1–42.

Porter, Katherine. 2012. *Broke: How Debt Bankrupts the Middle Class*. Stanford University Press.

Powers, Daniel, Hirotoshi Yoshioka, and Myeong-Su Yun. 2011. “Mvdcmp: Multivariate Decomposition for Nonlinear Response Models.” *The Stata Journal* 11(4):556–76.

Rose, Heather, and Julian R. Betts. 2004. “The Effect of High School Courses on Earnings.” *The Review of Economics and Statistics* 86(2):497–513.

Seamster, Louise. 2019. “Black Debt, White Debt.” *Contexts* 18(1):30–35.

Song, Moohoun, Peter F. Orazem, and Darin Wohlgemuth. 2008. “The Role of Mathematical and Verbal Skills on the Returns to Graduate and Professional Education.” *Economics of Education Review* 27(6):664–75.

Spence, Michael. 1973. “Job Market Signaling.” *The Quarterly Journal of Economics* 87(3):355–74.

Sullivan, Teresa A., Elizabeth Warren, and Jay Lawrence Westbrook. 2020. *The Fragile Middle Class: Americans in Debt*. Yale University Press.

Thorne, Deborah, and Leon Anderson. 2006. “Managing the Stigma of Personal Bankruptcy.” *Sociological Focus* 39(2):77–97.

US Courts. 2018. “Just the Facts: Consumer Bankruptcy Filings, 2006-2017.” United States Courts. Retrieved November 25, 2019 (https://www.uscourts.gov/news/2018/03/07/just-facts-consumer-bankruptcy-filings-2006-2017).

Warren, Elizabeth. 2004. “The Economics of Race: When Making It to the Middle Is Not Enough Symposium: Critical Race Theory: The Next Frontier.” *Washington and Lee Law Review* 61(4):1777-1800.

Warren, Elizabeth, and Deborah Thorne. 2012. “A Vulnerable Middle Class.” Pp. 25–39 in *Broke: How debt bankrupts the middle class*. Stanford, CA: Stanford University Press.

Warren, John Robert, Carolina Milesi, Karen Grigorian, Melissa Humphries, Chandra Muller, and Eric Grodsky. 2017. “Do Inferences about Mortality Rates and Disparities Vary by Source of Mortality Information?” *Annals of Epidemiology* 27(2):121–27.

Wilson, Valerie, and William M. Rodgers III. 2016. “Black-White Wage Gaps Expand with Rising Wage Inequality.” Economic Policy Institute. Retrieved May 6, 2020 (https://www.epi.org/publication/black-white-wage-gaps-expand-with-rising-wage-inequality/).

Zywicki, Todd J. 2005. “An Economic Analysis of the Consumer Bankruptcy Crisis.” *Northwestern University Law Review* 99(4):1463–1542.